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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/712,018 | 11/14/2003 | Neil H. Puester | 91000-000010/US | 8387 |
| 30593 | 7590 | 11/09/2006 | EXAMINER | |
| HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195 | | | DOVE, TRACY MAE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1745 | |

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/712,018

Applicant(s)

PUESTER ET AL.

Examiner

Tracy Dove

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 20-26 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 27-34, 36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/17/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-19, 27-34, 36 and 37, drawn to a gasket for a battery, classified in class 429, subclass 185.
- II. Claims 20-26 and 35, drawn to a method for manufacturing a gasket, classified in class 29, subclass 623.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product may be made by another materially different process.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with John Castellano on 11/3/06 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-19, 27-34, 36 and 37. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20-26 and 35 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claims Analysis

Claims 1-9 and 33 are directed toward a gasket "for use in a bipolar battery". Only limitations further limiting the gasket are given patentable weight because limitations directed to components of the battery are considered intended use limitations. The claims are not directed toward a battery, thus limitations regarding the battery are not given patentable weight. The claimed gasket does not "comprise" the bipolar battery".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19, 27-34, 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-9 and 33 are directed toward a gasket, not toward a bipolar battery. However, the claims contain numerous limitations regarding the components of the bipolar battery and the placement of the gasket within the bipolar battery. The claims should be amended to clearly recite what is being claimed. If Applicant wishes to claim "A gasket", all limitations regarding the components of the battery should be removed from the claims to clearly claim the invention. If Applicant wishes to claim "A bipolar battery", Examiner suggests the claims be amended accordingly. A gasket does not "comprise" a bipolar battery.

Claim 1 recites "said gasket is made from a material with deformable properties", which lacks proper antecedent basis. Examiner suggests "said gasket is made from said hydrophobic material with deformable properties". See also claim 10.

Claim 1 recites "the gasket further comprising: a frame", which is indefinite. It appears "the gasket" and the "frame" are the same element. Examiner suggests amending the claim to recite the gasket is frame shaped.

Claim 10 recites "at least two electromechanical cells", which is indefinite. Examiner suggests "at least two electrochemical cells". See paragraph [0015] of the specification.

Claim 10 recites "at least two electromechanical cells" and then recites "at least one set of a negative...", which is indefinite. The claims should be amended to recite "at least two sets of a negative...". Furthermore, claim 10 recites a "separator arranged between each negative and positive electrode forming a battery cell", however, the claim requires only one "set".

Claim 10 recites improper group language, "at least one of between each biplate and between a biplate and end terminal" should be "at least one of between each biplate or between a biplate and end terminal".

Furthermore, “from one cell to another cell”, “each biplate and each end plate”, “adjacent cells” and “for all cells in the battery” lack proper antecedent basis. The claim should be amended to clearly state the bipolar battery structure Applicant is intending to claims.

Claim 19 recites improper group language, “the battery is selected from the group”, should be “the battery is selected from the group consisting of”.

Regarding claim 27, a terminal connector is not both “a positive and negative terminal connector”. The phrase “adjustable arranged to the case” is indefinite because it is unclear what the phrase encompasses.

Claim 36 recites “the gasket of the gasket”, which is believed to be a typographical error. Applicant stated on 11/3/06 that “the gasket of the gasket” should recite “a rim of the gasket”. Appropriate correction is required.

With respect to dependent claims 31-33, 35 U.S.C. 112, fourth paragraph, should be followed. This paragraph states that “a claim in a dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers” and requires the dependent claim to further limit the subject matter claimed. Claims 31-33 do not further limit the gasket of claim 1, claims 31-33 only recite an intended use of the gasket. Claims 31-33 should be rewritten in independent form.

To the extent the claims are understood in view of the 35 U.S.C. 112 rejections above, note the following prior art rejections.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-12, 15-19, 27-29 and 31-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Arias, US 5,618,641.

Arias teaches a prior art bipolar battery construction in Figures 2a and 2b. The bipolar battery comprises bipolar plates 20 sealed with an elastomeric edge seal 31. The bipolar plates separator one sealed bipolar cell 10 from an adjacent sealed bipolar cell 10. The cells comprise a positive electrode material, a negative electrode material and a separator/electrolyte. The elastomer edge seal 31 is shown disposed between the bipolar plates 20 on the margin of the peripheral edges. The edge seal contains an upper and lower channel through which gases that evolve during operation of the battery can circulate between adjacent cells. The channel helps maintain uniform gas pressure in all cells and uniform water vapor pressure. The edge seal prevents liquid electrolyte from escaping from the sealed bipolar cell (7:34-64). Arias teaches the edge seal (border) may be hydrophobic to minimize wicking around bipolar plate peripheral edges (5:6-13). Table 3 teaches nickel/cadmium and nickel/metal hydride cells. Terminal connectors are shown in at least Figure 3.

Thus the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 13, 14, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arias, US 5,618,641 in view of Mrotek et al., US 5,688,615.

Arias teaches a prior art bipolar battery construction in Figures 2a and 2b. The bipolar battery comprises bipolar plates 20 sealed with an elastomeric edge seal 31. The bipolar plates separator one sealed bipolar cell 10 from an adjacent sealed bipolar cell 10. The cells comprise a positive electrode material, a negative electrode material and a separator/electrolyte. The elastomer edge seal 31 is shown disposed between the bipolar plates 20 on the margin of the peripheral edges. The edge seal contains an upper and lower channel through which gases that evolve during operation of the battery can circulate between adjacent cells. The channel helps maintain uniform gas pressure in all cells and uniform water vapor pressure. The edge seal prevents liquid electrolyte from escaping from the sealed bipolar cell (7:34-64). Arias teaches the edge seal (border) may be hydrophobic to minimize wicking around bipolar plate peripheral edges (5:6-13). Terminal connectors are shown in at least Figure 3.

Arias does not teach the frame gaskets include a guide means.

However, Mrotek teaches a bipolar battery comprising a frame member wherein the frame member includes a guide means for controlling the position of the biplate. See at least Figure 6. Element 60 is considered the rim of the claimed invention.

Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Mrotek teaches the guide means helps to align the biplate during cell assembly. Mrotek further teaches it was known in the art that the frame members of bipolar batteries may have the guide means disclosed by Mrotek or the frame members may have a smooth upper surface without alignment means (6:34-37). One of skill

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would have been motivated to use a guide means for the bipolar battery of Arias to help align a biplate during cell assembly. Furthermore, Mrotek teaches frame gaskets with alignment means may be substituted for frame gaskets with smooth surfaces.

Conclusion


The information disclosure statement (IDS) submitted on 2/17/04 has been considered by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 6, 2006


TRACY DOVE
PRIMARY EXAMINER